Vulcan Range

24kW, 200kV High Voltage Power Supply

Specification Summary

The Vulcan Range

As the Vulcan power supply can be adapted to deliver outputs from 10kW to 24kW and up to 200kV, the specification below is just an example of the numerous options available.

Basic Specification

The input voltage range can be between 380/220VAC -10% to 415/240VAC +10%, three phase, four-wire plus Earth, 50 or 60Hz. The inputs are power-factor corrected. In cases where no neutral connection is available, this should be specified at time of order. Supplies may also be 210/120VAC three wire but this must also be specified at time of order.

Output voltage	The output voltage may be set to any value up to 60kV negative (in this example). Values below 500V are considered to be outside the normal operational range and are not subject to specification.
Output stored energy	Any level of current may be drawn from the supply up to a maximum of 250mA. Automatic reduction of output voltage occurs above approximately 275mA.
Ripple	60V pk. to pk. at twice the main oscillator frequency. The oscillator operates at 50 to 60kHz and so the main ripple component of the output will be at 100 to 120kHz. This assumes that the high voltage cable is at least 1000pF. There is also a ripple component at 100Hz (for a 50Hz supply). This will is below 60V pk. to pk. but is measured separately from the convertor frequency component. Note that convertor frequency ripple is mainly related to load current, not voltage, while mains frequency ripple is related to output power.
Regulation	Line: Less than 15V for a 25VAC change in supply voltage. Load: Less than 15V for a 25mA (10%) to 250mA (100%) change in load current Analogue inputs and outputs.
HV Command Input	0 to +10V = 0 to 60kV
mA Command Input	0 to +10V = 0 to 250mA
Bias Command Input	0 to +10V = 0 to -2000V (Standby Mode)
HV Feedback Output	0 to +10V = 0 to 60kV
mA Feedback Output	0 to +10V = 0 to 250mA
Bias Feedback Output	0 to +10V = 0 to -2000V
Filament Feedback Output	0 to +10V = 0 to 100A

Mechanical

Dimensions	56cm x 78cm x 100cm
Mass	Approx. 250kg

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